L Number	Hits	Search Text	DB	Time stamp
1	1288	((709/213) or (709/214) or (709/215) or (709/216)).CCLS.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/14 14:00
7	1154	message near3 pieces	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/14 14:04
8	5	(((709/213) or (709/214) or (709/215) or (709/216)).CCLS.) and (message near3 pieces)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2004/05/14 14:04

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Drafts
Pending
Active
    L2: (15705) pbx
    L1: (90) postbox
    L3: (4349985) process
    L4: (276631) node
    L5: (7) 1 and 3 and 4
    L6: (3) 1 same 3 same 4
    L8: (4) 5 not 6
Failed
Saved
Favorites
Tagged (1)
UDC
Queue
Trash

Search List Browse Queue Clear

DBs USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB ☑ Plurals
Default operator: OR ☑ Highlight all hit terms initially

1 same 3 same 4

BRS form IS&R form File Details

Ready NUM

US-PAT-NO: 6601089

DOCUMENT-IDENTIFIER: US 6601089 B1
See image for Certificate of Correction

TITLE: System and method for allocating buffers for message
                passing in a shared-memory computer system

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Claims Text - CLTX (17):
   17. A multi-node computing system comprising: a first node configured to
execute a first plurality of processes, said first node including a memory
which includes a local portion and a remote portion; and a second node coupled
to said first node via a communication link, wherein said second node is
configured to execute a second plurality of processes; wherein the local
portion of said memory includes separate regions allocated to each process of
the first plurality of processes, wherein each region includes: a first
plurality of postboxes including a postbox for one or more processes of the
first plurality of processes; and a first buffer pool comprising a plurality
of buffers managed by the process to which the first buffer pool is allocated;
wherein the remote portion includes a first region allocated to the second
node, wherein each process of the second plurality of processes is allocated
within said first region: a second plurality of postboxes including a postbox
for one or more of the first plurality of processes; and a second buffer pool
comprising a plurality of buffers managed by the process to which the second
buffer pool is allocated.

Claims Text - CLTX (18):
   18. The system of claim 17, wherein the first node is configured to
facilitate transfer of a message from a first process of the first plurality of
processes to a second process of the first plurality of processes by storing
the message in a first postbox of the first plurality of postboxes which is
allocated for the purpose of transferring messages from the first process to
the second process.

Claims Text - CLTX (22):
   22. The system of claim 17, wherein the second node is configured to
transfer a message from a first process of the second plurality of processes to
a first process of the first plurality of processes by storing the message in a
first postbox of the second plurality of postboxes which is allocated for the
purpose of transferring messages from the first process of the second node to
the second process of the first node.

Claims Text - CLTX (26):
   26. A method for facilitating transfer of messages between nodes in a

server process 33(P.sub.S), it will load at least some portion of the information into the postbox 51(1)(P.sub.S) that is associated with both client process 30(1)(1) and server process 33(P.sub.S). As will be described below, after a client process 30(1)(p) has loaded at least some portion of information into a postbox 50(p)(p'), it will not be able to use the postbox 50(p)(p') again until the server process 33(p') has retrieved the information therefrom; to accommodate that, in one embodiment, each client process 30(1)(p) has several postboxes associated with each server process 33(p). Although the postbox section 41 has been described as including postboxes only for use by client processes in transferring information to respective server processes, it will be appreciated that the postbox section 41 may also include postboxes for use by server processes in transferring information to respective client processes.

Detailed Description Text - DETX (10):
   The blocks section 42 comprises a plurality of blocks each of pre-determined size. As noted above, the client processes 30(1)(p) use their respective postboxes 50(p)(p') for a portion of the respective information that they load into the channel data structure 23(1). If information is sufficiently small as to fit into a postbox 50(p)(p'), the client process 30(1)(p) will load the information into the postbox 50(p)(p'). In that case, the contents of the postbox 50(p)(p') will be organized according to the structure defined for the type of information which has been loaded into the postbox 50(p)(p').

Detailed Description Text - DETX (11):
   On the other hand, if the information is too large to fit into a postbox 50(p)(p'), which may be the case if the information is a send information including a significant amount of data, the client process 30(1)(p) will load the information into one or more blocks in blocks section 42, and load information as to the blocks which contain the information into the postbox 50(p)(p'). In that case, the contents of postbox 50(p)(p') will be organized into fields as depicted in postbox 50(1)(1). As shown in FIG. 2, the postbox 50(1)(1) includes a plurality of fields, including a state field 51, an envelope 52 a buffer count field 53, a total size field 54 and a buffer list field 55. The state field 51 contains a state value identifies the state of the postbox 50(1)(1), including, for example, whether the postbox 50(1)(1) contains information relating to a new information, and whether the server process 33(1) has retrieved the information. The state value, if it indicates that the postbox 50(1)(1) contains information relating to a new information, also indicates, for example, whether the information in the postbox 50(1)(1) contains the entire information, or whether the information is stored in one or more blocks in blocks section 42, thereby enabling the server process 33(1) to determine the structure of the rest of the information in postbox 50(1)(1). Thus, when the client process 30(1)(1) loads information relating to information into the postbox 50(1)(1), it will condition the state field 51 to so indicate and further to indicate the type of information in the postbox 50(1)(1).

Detailed Description Text - DETX (12):

US006718398B1

(12) **United States Patent**
Dontje et al.

(10) Patent No.: **US 6,718,398 B1**
(45) Date of Patent: **Apr. 6, 2004**

(54) **ROBUST COMMUNICATIONS CONNECTION SYSTEM AND METHOD FOR SHARED MEMORY**

(75) Inventors: **Terry D. Dontje**, Maynard, MA (US); **Steven J. Sistare**, Westford, MA (US)

(73) Assignee: **Sun Microsystems, Inc.**, Santa Clara, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/337,588

(22) Filed: **Jun. 21, 1999**

(51) Int. Cl.^{7} G06F 9/46; G06F 15/167
(52) U.S. Cl. 709/312; 709/313; 709/213; 709/215
(58) Field of Search 709/201–203, 709/223, 224, 100, 310–314, 213–216

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Assistant Examiner—Lewis A. Bullock, Jr.
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(57)   **ABSTRACT**

A communications arrangement is described for facilitating transfer of messages among a plurality of processes in a computer system. The communications arrangement comprises a channel data structure, a status daemon and an exit handler. The channel data structure includes a channel status flag normally having one of a plurality of conditions, and a plurality of storage locations each configured to receive message information. The status daemon is configured to determine the operational status of the processes. The exit handler is configured to, in response to the status daemon determining a predetermined condition in connection with at least one of the processes, condition the channel status flag to another of the conditions, thereby to indicate to the other processes a failure condition in connection with the communications arrangement.

17 Claims, 7 Drawing Sheets
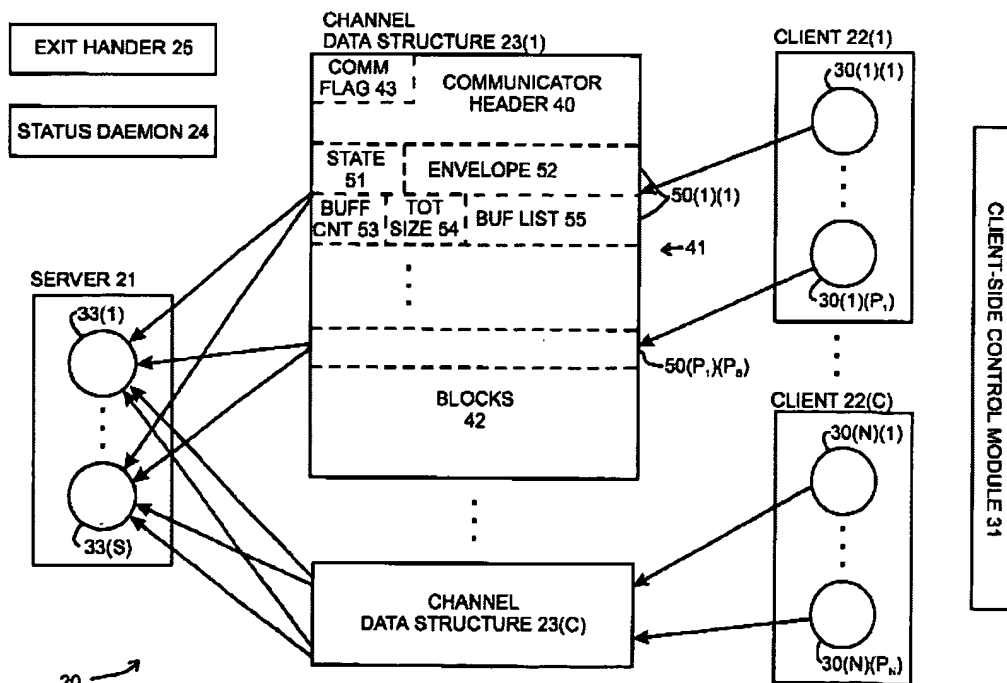
US-PAT-NO: 5613068

DOCUMENT-IDENTIFIER: US 5613068 A

TITLE: Method for transferring data between processors on a
                    network by establishing an address space for each
                    processor in each other processor's

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Detailed Description Text - DETX (6):
   The switch 10 is preferably a non-blocking packet switch. Each packet may
be an entire message or response, or only a block (or piece) of the message or
response. As a packet goes through the switch, a connection is made through
the matrix, and after transmission of the packet has finished, the switch
matrix connection is broken.

Current US Original Classification - CCOR (1):
   709/216

File View Edit Tools Window H

- Drafts
- Pending
- Active
  - L1: (1288) ((709/213) or (709/214) or (709/215) or (709/216)).CCLS.
  - L7: (1154) message near3 pieces
  - L8: (5) 1 and 7
- Failed
- Saved
- Favorites
- Tagged (1)
- UDC
- Queue
- Trash

	U	1	Document ID	Issue Dat	Page	Title	Current OR	Current XR	Retrieval
1	☐	☑	US 6601089 B1	20030729	17	System and method for allo	709/213	709/214;	

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